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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,397	10/14/2004	Akihiro Nishida	UNIU79.034APC	9195

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
PRITCHETT, JOSHUA L	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/511,397	NISHIDA ET AL.	
	Examiner	Art Unit	
	Joshua L. Pritchett	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/04,11/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Preliminary Amendment filed October 14, 2004. Claims 3-5 and 7-9 have been amended and claims 11-19 have been added as requested by the applicant.

Specification

The abstract of the disclosure is objected to because the abstract is too long and contains legal language. The abstract would be written in a narrative format. Correction is required. See MPEP § 608.01(b).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3-12 and 14-19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3-10 of copending Application No. 10/510,466 in view of copending application 10/983,520.

Regarding claims 1, 14 and 16, 10/510,466 claims a light-diffusing sheet comprising a light-diffusing layer, which is made of a resin coating layer having a minute unevenness formed on a surface thereof, is formed on at least one side of a transparent film, wherein the transparent film includes a thermoplastic resin (A) having a substituted and/or non-substituted imido group in a side chain, and a thermoplastic resin (B) having a substituted and/or non-substituted phenyl group and nitrile group in a side chain (claim 1). 10/510,466 lacks the limitations regarding the spacing and roughness. 10/983,520 claims an average height-depth spacing (Sm), a center-line average surface roughness (Ra) and a ten-point average surface roughness (Rz) on the surface with the minute unevenness satisfies the respective following relations: $Sm \leq 80$ μm, $Ra \leq 0.25$ μm and $Rz \leq 9Ra$ (claim 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the 10/510,466 invention include the spacing and roughness features of 10/983,520 for the purpose of minimizing inadvertent diffusion as a result of surface irregularities to provide a more definite and precise diffusion of incident light.

Regarding claim 3, 10/510,466 claims wherein if in the transparent film, a direction along which an in-plane refractive index is maximized is X axis, a direction perpendicular to X axis is Y axis, a thickness direction of the film is Z axis; refractive indexes in the respective axis directions are nx, ny and nz; and a thickness of the transparent film is d (nm) by definition, the

transparent film satisfies the following relations: in-plane retardation $Re = (nx - ny) \times d \leq 20$ nm and thickness direction retardation $Rth = \{(nx + ny)/2 - nz\} \times d \leq 30$ nm (claim 6).

Regarding claims 4 and 15, 10/510,466 claims wherein the transparent film is a biaxially stretched film (claim 7).

Regarding claim 5, 10/510,466 claims wherein the resin coating layer comprises fine particles and the surface unevenness shape of the resin coating layer is formed with the fine particles (claim 3).

Regarding claims 6 and 17, 10/510,466 claims wherein the fine particles are organic fine particles (claim 4).

Regarding claims 7 and 18, 10/510,466 claims wherein the resin coating layer is formed with ultraviolet curing resin (claim 5).

Regarding claims 8 and 19, 10/510,466 claims a low refractive index layer lower in refractive index than the resin coating layer is provided on the unevenness surface of the resin coating layer of the light-diffusing sheet (claim 8).

Regarding claims 9 and 11, 10/510,466 claims the light-diffusing sheet is provided on one side or both sides of an optical element (claim 9).

Regarding claims 10 and 12, 10/510,466 claims a display comprising the optical element (claim 10).

This is a provisional obviousness-type double patenting rejection.

Claims 1-19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3-10 of copending Application No. 10/510,466 in view of copending application 10/029,721.

Regarding claims 1, 14 and 16, 10/510,466 claims a light-diffusing sheet comprising a light-diffusing layer, which is made of a resin coating layer having a minute unevenness formed on a surface thereof, is formed on at least one side of a transparent film, wherein the transparent film includes a thermoplastic resin (A) having a substituted and/or non-substituted imido group in a side chain, and a thermoplastic resin (B) having a substituted and/or non-substituted phenyl group and nitrile group in a side chain (claim 1). 10/510,466 lacks the limitations regarding the spacing and roughness. 10/029,721 claims an average height-depth spacing (Sm), a center-line average surface roughness (Ra) and a ten-point average surface roughness (Rz) on the surface with the minute unevenness satisfies the respective following relations: $Sm \leq 80$ μm, $Ra \leq 0.25$ μm and $Rz \leq 9Ra$ (claim 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the 10/510,466 invention include the spacing and roughness features of 10/029,721 for the purpose of minimizing inadvertent diffusion as a result of surface irregularities to provide a more definite and precise diffusion of incident light.

Regarding claim 2, 10/510,466 claims the invention as claimed but lacks reference to the glossiness of the surface. 10/029,721 claims wherein a 60^0 glossiness on the surface with the minute unevenness is 70% or less (claim 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the 10/510,466 invention include the glossiness features of 10/029,721 for the purpose of controlling the reflection of light incident on the surface of the light-diffusing sheet.

Regarding claims 3 and 13, 10/510,466 claims wherein if in the transparent film, a direction along which an in-plane refractive index is maximized is X axis, a direction perpendicular to X axis is Y axis, a thickness direction of the film is Z axis; refractive indexes in the respective axis directions are nx, ny and nz; and a thickness of the transparent film is d (nm) by definition, the transparent film satisfies the following relations: in-plane retardation Re = (nx – ny) x d $\leq$ 20 nm and thickness direction retardation Rth = {(nx + ny)/2 – nz} x d $\leq$ 30 nm (claim 6).

Regarding claims 4 and 15, 10/510,466 claims wherein the transparent film is a biaxially stretched film (claim 7).

Regarding claim 5, 10/510,466 claims wherein the resin coating layer comprises fine particles and the surface unevenness shape of the resin coating layer is formed with the fine particles (claim 3).

Regarding claims 6 and 17, 10/510,466 claims wherein the fine particles are organic fine particles (claim 4).

Regarding claims 7 and 18, 10/510,466 claims wherein the resin coating layer is formed with ultraviolet curing resin (claim 5).

Regarding claims 8 and 19, 10/510,466 claims a low refractive index layer lower in refractive index than the resin coating layer is provided on the unevenness surface of the resin coating layer of the light-diffusing sheet (claim 8).

Regarding claims 9 and 11, 10/510,466 claims the light-diffusing sheet is provided on one side or both sides of an optical element (claim 9).

Regarding claims 10 and 12, 10/510,466 claims a display comprising the optical element (claim 10).

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-12 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuji (EP 1 160 591) in view of Suzuki (US 2002/0150722).

Regarding claims 1, 14 and 16, Fuji teaches a light-diffusing sheet comprising a light-diffusing layer, which is made of a resin coating layer having a minute unevenness formed on a surface thereof, is formed on at least one side of a transparent film, wherein the transparent film includes a thermoplastic resin (A) having a substituted and/or non-substituted imido group in a side chain, and a thermoplastic resin (B) having a substituted and/or non-substituted phenyl group and nitrile group in a side chain (abstract). Fuji lacks reference to the spacing and roughness. Suzuki claims an average height-depth spacing (Sm), a center-line average surface roughness (Ra) and a ten-point average surface roughness (Rz) on the surface with the minute

unevenness satisfies the respective following relations: Sm $\leq$ 80 μm, Ra $\leq$ 0.25 μm and Rz $\leq$ 9Ra (Table 3 Ex. 1). Suzuki teaches Sm = 40 microns, Ra = 0.174 microns and Rz = 1.19 microns. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Fuji invention include the spacing and roughness features of Suzuki for the purpose of minimizing inadvertent diffusion as a result of surface irregularities to provide a more definite and precise diffusion of incident light.

Regarding claim 3, Fuji teaches wherein if in the transparent film, a direction along which an in-plane refractive index is maximized is X axis, a direction perpendicular to X axis is Y axis, a thickness direction of the film is Z axis; refractive indexes in the respective axis directions are nx, ny and nz; and a thickness of the transparent film is d (nm) by definition, the transparent film satisfies the following relations: and thickness direction retardation Rth = {(nx + ny)/2 – nz} x d $\leq$ 30 nm (page 15 line 35; para. 0147). Fuji lacks specific reference to the in-plane retardation. Fjui suggests the in-plane retardation Re = (nx – ny) x d $\leq$ 20 nm (para. 0144). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Fuji invention include the claimed in-plane retardation relation as suggested by Fuji for the purpose of transmitting a uniformly diffused light beam without a decrease in intensity while maintaining clarity of any image projected through the diffusion sheet.

Regarding claims 4 and 15, Fuji teaches wherein the transparent film is a biaxially stretched film (para 0158).

Regarding claim 5, Fuji teaches wherein the resin coating layer comprises fine particles and the surface unevenness shape of the resin coating layer is formed with the fine particles (para. 0127).

Regarding claims 6 and 17, Fuji teaches wherein the fine particles are organic fine particles (para. 0127).

Regarding claims 7 and 18, Fuji teaches the invention as claimed but lacks reference to ultraviolet curing. Suzuki teaches the resin coating layer is formed with ultraviolet curing resin (para. 0085). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Fuji invention formed by ultraviolet curing as taught by Suzuki for the purpose of efficiently and precisely setting the resins used to create the light-diffusing sheet.

Regarding claim 9, Fuji teaches the light-diffusing sheet is provided on one side or both sides of an optical element (paras. 0195, 0201).

Regarding claim 10, Fuji teaches a display comprising the optical element (para. 0198).

Claims 8, 11, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuji (EP 1 160 591) in view of Suzuki (US 2002/0150722) as applied to claims 1 and 14 above, and further in view of Winston (US 2002/0061178).

Regarding claims 8 and 19, Fuji in combination with Suzuki teaches the invention as claimed but lacks a low index refractive layer. Winston teaches a low refractive index layer lower in refractive index than the resin coating layer is provided on the unevenness surface of the resin coating layer of the light-diffusing sheet (Figs. 2C and 2D; para. 0091). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Fuji in combination with Suzuki invention include the low refractive index layer of Winston for the purpose of substantially matching the refractive index of the light emitting layer with air to

prevent reflection at the interface of the air and the light-diffusing sheet thus emitting as much light intensity as possible and providing a brighter image to the viewer.

Regarding claim 11, Fuji teaches the light-diffusing sheet is provided on one side or both sides of an optical element (paras. 0195, 0201).

Regarding claim 12, Fuji teaches a display comprising the optical element (para. 0198).

Allowable Subject Matter

Claim 2 would be objected to as being dependent upon a rejected base claim if the double patenting rejection were overcome, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

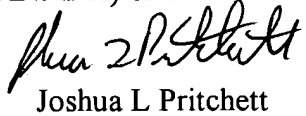
The following is a statement of reasons for the indication of allowable subject matter: the prior art other than the references used to provide a showing of double patenting fails to teach or suggest the light-diffusing sheet with a 60^{0} glossiness on the surface with the minute unevenness is 70% or less.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Joshua L Pritchett
Examiner
Art Unit 2872